

**NATIONAL TRANSPORTATION SAFETY BOARD
Office of Research and Engineering
Vehicle Recorder Division
Washington, D.C. 20594**



GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION

DCA19FM033

**By
Nicholas Swann**

WARNING

The reader of this report is cautioned that the transcript of a voyage data recorder audio recording is not a precise science but is the best product possible from a Safety Board group investigative effort. The transcript or parts thereof, if taken out of context, could be misleading. The transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

September 6, 2019

Voyage Data Recorder

Group Chairman's Factual Report

By

Nicholas Swann

1. EVENT SUMMARY

Location: Houston, TX
Date: May 10, 2019
Ship: Oil Tanker, Genesis River, Registration 9791224
Operator: K Line Energy Ship Management, Co.,Ltd.
NTSB Number: DCA19FM033

The 755-foot-long, fully-laden, LPG carrier Genesis River (GR) was outbound in the Houston Ship Channel under pilot control. The GR was transiting near the "Bayport Flare," the brief widening of on side of the Houston Ship Channel where the Bayport channel intersects it. Near the south end of the Bayport Flare, where the channel narrows again, the GR met the inbound LPG carrier BW Oak (BWO). After the GR and BWO passed (where there is also a turn in the channel), the GR swung to port toward the opposite (Red) side of the channel. In the barge lane outside the channel on the Red side, the towing vessel Voyager was inbound pushing two loaded tank barges arranged side-by-side. The pilot on the GR, concerned that the GR would hit the Voyager, instructed the relief captain on the towboat to cross his vessel to the other side of the channel. The Voyager turned to cross the channel, but the GR swung back to starboard as it neared the Red bank. The GR then struck one of the Voyager's two barges, nearly cutting it in half, and the second barge capsized. File extraction from a voyage data recorder (VDR) was sent to the National Transportation Safety Board (NTSB) Vehicle Recorder Division for evaluation. The VDR group meeting convened on August 6, 2019 and a partial transcript was prepared for the five hour digital recording (see attached).

2. GROUP

Chairman: Nicholas Swann
Recorder Specialist
National Transportation Safety Board

Member: Andrew Ehlers
Investigator in Charge
National Transportation Safety Board

Member: Jim Guidry
Executive Vice President of Operations
Kirby Inland Marine

Member: Captain Mark Mitchem
Presiding Officer
Houston Pilots

Member: Captain Pradip Bhaumik
Captain
K Line Energy Ship Management Co.,Ltd.

Member: Lieutenant Commander [REDACTED]
Lieutenant Commander
United States Coast Guard

3. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Division received the following VDR:

Recorder Manufacturer/Model: **JCY-1900**

Recorder Serial Number: **MB52801**

3.1 VDR Carriage Requirements

The event vessel, IMO Number 9791224, was launched in 2018 and was operating such that it was required to be equipped with a full VDR, as cited under Regulation 20 of Safety of Life at Sea (SOLAS) Chapter V.

3.2 JCY-1900 VDR Description

The JCY-1900 is a VDR system capable of recording navigation, propulsion, control surface, alarm, and automatic identification system (AIS) data. Additionally, bridge audio and communications audio channels are recorded by the system. A minimum of 12 hours of data are recorded by the system.

3.3 Audio Recording Description

Approximately 12 hours of fair quality audio (see Attachment 1) was extracted from the VDR, including the time period surrounding the event. Timing of the VDR data is synchronized to GPS time and is recorded as Universal Time Coordinated (UTC).

The audio from the beginning of the recording at 16:00 until 17:21 was summarized. For the audio beginning at 17:21 to 19:44, only rudder, course, and engine telegraph commands were transcribed. The data from that transcription is attached. The audio beginning at 19:44 and continuing to 20:16 was fully transcribed for this report. The post-accident events from 20:16 until roughly 20:25 were also summarized.

3.4 JCY-1900 VDR Time Correlation

The timestamp associated with the extracted recording was correlated to the timestamp of the extracted VDR data. A delay was noted between the audio recording and the data logging. This delay was rectified by aligning aural cues in the audio recording with their associated parameter in the recorded data. When the engine order telegraph (EOT) position was changed there was an accompanying alarm heard on the bridge. The timing of that alarm was aligned with the associated change in the RPM demand parameter recorded by the VDR. A representative sample of engine RPM commands was taken, and the average of their time differences was implemented. This resulted in moving the recorded audio forward by 9.4 seconds from its original associated timestamp. All times in this report are given in UTC.

3.5 Beginning of Recording Summary

The recording started at 16:00:00 with the Genesis River portside to at Targa #4.

At 16:43:50 crew reported pilots onboard the vessel. The pilots proceeded to the bridge arriving at about 16:48:00. At 16:50:58, Pilot 1 requested the pilot card from the crew and it was provided to him. At 16:52:36 the captain was heard on the bridge. At 16:55:19 Pilot 2 confirmed that Pilot 1 would have the first watch. At 16:56:19, after hearing the sound of feedback on VHF radios, Pilot 1 requested that the crew “turn the radio off” to prevent “rock concert squeal [feedback].” In the recording, other bridge radio channels were heard and recorded by the VDR. At 16:56:34, Pilot 2 requested the crew turn off all alarms “on the radar.” At 16:58:24, Pilot 1 asked the captain if all ship systems are in working order. The captain replied yes, with the exception of still needing to test the engine. The sound of the engine order telegraph and crew communication about engine testing was then heard. After this, the pilots and crew proceeded with unmooring with the last lines call at 17:12:45.

Pilot 1 issued his first order at 17:21:52. Shortly thereafter, he requested that the crew only repeat commands once and do not confirm rudder position after the command was executed. At 17:45 Pilot 2 departed the bridge and he returned at 19:32. At some time after 18:23 the captain departed the bridge and the Chief Officer was the senior officer on the bridge. From the period of 17:21 to 19:44 only rudder and engine telegraph commands were transcribed.

3.6 Post-Accident Recording Summary

At 20:16:17 the general alarm of the Genesis River was sounded. At 20:16:34, Pilot 2 called the pilot dispatcher to inform them of the collision and tell them to shut down the channel. At 20:17:24 an additional command to stop the engines was given and at 20:18:09, Pilot 2 called for 3 tractor tugs and suggested Houston pilots cease boarding on ships until the blockage in the channel had been cleared. At 20:18:39 the captain of the Voyager alerted the pilots of the product contained in the affected barges. Originally the captain of the Voyager stated the barges contained raffinate [petroleum byproduct], however they contained reformate.

At roughly 20:19:39, Pilot 2 briefed the captain, suggesting they continue moving astern and put an anchor at the water’s edge. At 20:20:24 the pilot asked the captain to sound the forepeak tank. In the recording, at 20:20:59, Pilot 1 was speaking on his cellphone with the US Coast Guard to alert them of what happened. At 20:21:54 Pilot 1 mentions smelling fuel and Pilot 2 responded stating the smell could be attributed to the “raffinate” [reformate]. At 20:22:24 Pilot 2 requested that the dispatch contact the US Coast Guard to request a lay berth or further instructions on where to move the ship to. After this, the pilots and crew continued to take action to survey for damage or injuries and determine a lay berth.

Attachment I

VDR Quality Rating Scale

The levels of recording quality are characterized by the following traits of the voyage data recorder information:

Excellent Quality	Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous bridge/radio transmissions that obscure each other.
Good Quality	Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous bridge/radio transmissions that obscure each other.
Fair Quality	The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by bridge noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the VDR system that distorts or obscures the audio information.
Poor Quality	Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high bridge noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the VDR system that severely distorts or obscures the audio information.
Unusable	Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the VDR system.

Transcript of a JCY-1900 voyage data recorder, serial number MB52801, installed on the Genesis River LPG Tanker (9791224)

LEGEND

Pilot1	The Pilot on first watch
Pilot2	The Pilot on second watch
Captain	The Captain
2M	The Second mate
Chief Officer	The Chief Officer
Helmsman	The Helmsman
ABS?	An unidentifiable Able-Bodied Seaman
Mates?	An unidentifiable officer
American Reliance	The operator of the American Reliance
BW Oak Pilot	The Pilot operating the BW Oak
Internal Radio	Communication over the ship's internal radio
MIC	Relevant noises captured by the ship's microphones
Provider	The operator of the Provider
Trey Deloach	The operator of the Trey Deloach
Voyager	The operator of the Voyager
RDO	Communication over the radio
OP	Other Pilot
DP	Deputy Pilot
UP	Unrelated Person
*	Unintelligible word
#	Expletive
@	Non-pertinent word
()	Questionable insertion
[]	Editorial insertion

Note 1: Times are expressed in Universal Time Coordinated (UTC).

Note 2: Generally, only radio transmissions to and from the incident Ship were transcribed.

Note 3: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 4: A non-pertinent word, where noted, refers to a word not directly related to the operation, control or condition of the Ship.

Time and Source	Intra-Ship Communication
START OF RECORDING	
START OF TRANSCRIPT	
19:44:30.2 Pilot2	I got you @[Pilot1].
19:44:33.2 Pilot1	You ready?
19:44:33.9 Pilot2	Y'all over the place.
19:44:35.3 Pilot1	Yup.
19:44:35.9 Pilot1/2	[Sound of laughter]
19:44:36.9 Pilot2	I figured she - I heard you way back then.
19:44:39.7 Pilot2	Steady.
19:44:40.8 Helmsman	Steady.
19:44:41.3 Pilot1	Ahhh shes takin' lotsa (wheel).
19:44:43.2 Pilot2	Okay yeah.
19:44:43.6 Pilot1	Typical Japanese ship got a little bitty rudder on her.

Time and Source	Over-the-Air Communication
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Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:44:48.1 Pilot2	Sounds good.		
19:44:48.8 Pilot1	Ahh this is @[OP1] you're gonna meet.		
19:44:51.4 Pilot2	Okay.		
19:44:51.9 Pilot1	And I think @[OP2] after him.		
19:44:54.2 Pilot2	('kay) Sounds good.		
19:44:58.7 Pilot2	Think that tow is doin' eight knot in front of us.		
19:45:00.6 Pilot1	Ahh # yeah.		
19:45:01.3 Pilot2	You're kiddin'		
19:45:02.1 Pilot1	He came out of old river - and I asked him what kinda speed ya gunna make - he said eight and half - I said stomp on it cap I'll catch you in the bay.		
19:45:11.3 Pilot2	How's the other guys?		
19:45:14.8 Pilot1	They said we got eighteen to nineteen but I don't know now they lost a jobs so I don't know if they're up to date up there.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:45:20.3 Pilot2	Okay. Okay I'll take it.		
19:45:24.2 Pilot1	Pilot ladder's already rigged starboard side.		
19:45:29.5 Pilot2	Starboard fifteen.		
19:45:31.1 Helmsman	Starboard fifteen.		
19:45:31.8 Pilot1	She's takin' lotsa - lotsa rudder.		
19:45:33.9 Pilot2	Yeah		
19:45:36.5 Pilot2	Sounds good.		
19:45:37.3 Pilot1	Okay		
19:45:38.3 Pilot2	Yeah		
19:45:39.0 Pilot2	[Sound of Laughter]		
19:45:42.0 Pilot2	I believe ya.		
19:45:43.7 Pilot1	I talked to –		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:45:45.4 Pilot1	Yeah was talkin' to @[OP3] he said they had forty seven feet on that ship that came out of Targa.		
19:45:49.7 Pilot2	That's nuts - how's that even possible?		
19:45:53.0 Pilot1	Umm they claim that the Chinese guy did - they didn't take the drafts around the ship and of course what they should have done was forty feet and then uh - they said the Chinese guy didn't know the ship was * having problems so ***.		
19:46:11.0 Pilot1	They pulled her off the dock?		
19:46:11.7 Pilot2	(We don't know - no they --)*****		
19:46:16.7 Pilot2	#		
19:46:18.0 Pilot1	So they pulled her off the dock.		
19:46:18.9 Pilot2	Midship.		
19:46:19.3 Helmsman	Midship.		
19:46:20.0 Pilot1	They couldn't get her back before she got * back.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:46:22.5 Pilot2	Full ahead		
19:46:23.3 Mate	Full ahead		
19:46:24.9 Pilot1	So the guy at targa ** said that ** [obscured by the sound of radio interference and engine order telegraph in the background] they're not set up to just get the stuff back.		
		19:46:33.8 RDO-Pilot2	Hey @[OP4] this is @[Pilot2] I had my radio off I'll see you on one.
		19:46:39.3 RDO-Pilot2	Is this @[OP4] or @[OP1]?
		19:46:40.9 RDO-Curtis	(This is @[OP1])***.
		19:46:43.7 RDO-Pilot2	Alright there @[OP1] I'll see you on one.
19:46:44.5 Pilot2	Yeah get to the point where I **.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:46:48.8 Mate	Engines on full ahead sir.		
19:46:50.0 Pilot2	Ok thank you sir.		
19:46:52.0 Pilot1	He said so they just wallow it out *** (drop).		
19:46:58.8 Pilot2	No I didn't.		
19:47:10.9 Pilot2	Starboard ten.		
19:47:12.3 Helmsman	Starboard ten.		
19:47:27.1 Pilot2	Midship.		
19:47:27.9 Helmsman	Midship.		
19:47:34.0 Pilot2	Mate or a captain (do) you have a ten minute notice we can increase to?		
19:47:37.7 2M	Yes.		
19:47:38.6 Pilot2	Okay I'm ready when you are.		
19:47:40.5 Pilot2	Steady on one six one.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:47:42.4 Helmsman	One six one.		
19:47:45.6 2M	Do you want me to increase now?		
19:47:47.3 Pilot2	Yes.		
19:47:47.9 Pilot2	Yeah yes that would be great.		
19:47:52.6 MIC	[Sound of EOT]		
19:48:22.0 Pilot2	I already sent a card.		
19:48:23.8 Pilot1	Oh okay.		
19:48:24.3 Pilot2	I had a card sent with your name on it so.		
19:48:48.1 Pilot2	Starboard fifteen.		
19:48:49.4 Helmsman	Starboard fifteen.		
19:48:59.9 Pilot2	Midship.		
19:49:01.0 Helmsman	Midship.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:49:27.9 Pilot1	Yeah it looks like you don't have a job now.		
19:49:30.4 Pilot2	I'm gonna refresh it now.		
19:49:32.2 Pilot1	Are you on seven hours or five?		
19:49:34.4 Pilot2	I - I didn't go seven.		
19:49:36.9 Pilot1	Okay so - so you have a job then.		
19:49:40.2 Pilot2	Yeah *** I've been on that barge you got the Ronnie I was on it last watch is that the new one with @[UP1]'s old boyfriend?		
19:49:48.7 Pilot2	I - yeah I think that's the new one that replace the Osprey [prior articulated tug barge that has called on Houston] I had it last watch I think		
19:49:55.8 Pilot1/2?	That's where @[UP2] - @[UP2] - Jackpot @[UP2] they call him.		
19:49:58.6 Pilot1/2?	@[UP2]		
19:50:01.4 Pilot2	Yeah they call him – it's a new rig.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:50:04.4 Pilot2	Yeah that was it I had it with @[DP1] that new @[DP1] last watch		
19:50:08.7 Pilot2	Oh yeah really nice rig its nice - size - handles good - fast - port fifteen.		
19:50:15.2 Helmsman	Port fifteen		
19:50:16.8 Pilot1	** Yeah its better than the Osprey.		
19:50:18.5 Pilot2	Oh - oh yeah – that's a good one.		
19:50:23.0 Pilot2	Good crew it's the same crew – midship.		
19:50:25.2 Helmsman	Mid - midship sir?		
19:50:26.8 Pilot2	Midship.		
19:50:30.3 Pilot1	If you wanna get off at the roads. [Bollivar Roads]		
19:50:33.1 Pilot2	Okay – okay.		
19:50:34.6 Pilot1	Or you can ride all the way out.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:50:36.3 Pilot2	Starboard twenty.		
19:50:37.4 Helmsman	Starboard twenty.		
19:50:38.6 MIC	[Sounds of background radio]		
19:50:46.4 Pilot2	Yeah - half of these gas ships handle like # - you know - its fifty fifty - I mean.		
19:50:53.0 Pilot1	*** I fought the big (boat) - big ships ***		
19:50:58.8 Pilot2	Yeah I've sweated a couple times not knowing they were gonna check up after meetin' a widebody there – midship.		
19:51:04.9 Helmsman	Midship.		
19:51:05.4 Pilot2	Steady.		
19:51:06.2 Helmsman	Steady.		
19:51:07.2 Pilot2	Yeah (shares) the type.		
19:51:09.9 Pilot1	I remember uh - who was it - that's why we (got) a Japanese paper ** - we had a ja - uh - gas ship ** --		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:51:20.6 Pilot2	One six zero.		
19:51:21.7 Helmsman	One six zero.		
19:51:23.6 Pilot1	We're walkin' out there - this Japanese (girl) so he goes ** no rudder - no power - he goes you're gonna have fun with this one its true - and we were loaded about forty three feet - sure enough *** I swore I was on the Gatano [A ship that used to frequent the Houston Channel, known for its difficult handling] again it was hard over to hard over.		
19:51:45.5 Pilot1	Yeah I heard they ***.		
19:51:48.6 ?	(Sea speed)		
19:51:50.6 Pilot2	*** I believe you.		
19:51:51.5 Pilot1	*** It was horrible and he told me he says when you get on there first thing to do is look if its Japanese built he goes you have no rudder and a lack of power.		
19:52:05.1 Pilot2	One six one.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:52:07.0 Helmsman	One six one.		
19:52:08.5 Pilot1	Korean built lot better - big rudder on that son-of-a-gun.		
19:52:14.5 Pilot1	He was right -- [sound of radio obscuring Pilot 1] ** # handling ship --		
19:52:19.9 Pilot1	Yeah there's a lot of these ** fifty percent ** yeah the one we had out of - out of uh - last watch out of enterprise - captain said there was eight of 'em comin' in and out of Houston. He said five of them had small rudders and the last three they made the rudders bigger but he couldn't remember which three they were.		
19:52:43.0 Pilot2	Yeah about a year and a half ago I was on one right - right in this area - loaded - met two widebodies a mile and a half apart @[OP5] was on the second one inbound - a mile and a half behind the first and both drafts - and I told him @[OP5] I don't know which way I'm gonna see ya - I had it hard over and I think I had *** (and everything) and then right at the last minute I was able to see him on one like normal but I didn't know I mean he didn't have to do that mile and a half.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:53:15.8 Pilot1	I don't know about anybody else but when I get on these loads forty plus feet now and I got another forty footer up in front of me I've been increasing my distance to almost two and a quarter to two and a half mile now.		
19:53:28.4 Pilot2	Yeah I've been talkin' to other pilots - all - all - everybody I've talked to feels the same way - yeah - everybody feels a big container ship comin' in needs more than a mile (to recover / an'a quarter) - cause you really do - a mile and a half don't cut it we're doin' more and more ships that are back to back. [Pilot1 interjects with 'yeah yeah' during portions of the conversation]		
		19:53:45.5 RDO-Pilot2	Ok there @[OP2] one whistle thank you.
		19:53:48.7 RDO-Pilot2	Hey American reliance - this is **[radio chatter] ship astern of ya I (kicked/picked) it up I'm closing in on ya - can ya knock her in the head [slow all the way down] I wanna get by you before that inbounder or can ya - do you got more - uh - push on her some more
		19:54:03.4 American Reliance	(come/go) on by *** (I'm gonna slow paddle if ya want)
		19:54:07.1 RDO-Pilot2	Ok fine thanks.

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:54:09.0 Pilot2	Looks like he slowed down on top of that ***		
19:54:16.1 Pilot2	But yeah everybody I talked to feels the same way.		
19:54:19.2 Pilot1	They're doin' the same thing.		
19:54:20.4 Pilot2	Yeah they - they feel the same way I don't know if they're - they're doin' it everybody's talkin' about it.		
19:54:25.0 Pilot1	Yeah after that first time you're on the receiving end of that # stick you're like oh #.		
19:54:30.4 Pilot2	I try to teach those - the deputies (to be better neighbors) ***		
19:54:35.5 Pilot2	Ya know I try to ** you get a full pilot behind ya kind of push you on that mile and a half ya know sometimes you got a slip workin' - ya got ahead of ya - who you're gonna meet. Ya know widebody widebody		
19:54:47.6 ABS?	(Ya know what I'm sayin'?/Port 10?)		
19:54:48.5 Pilot2	Yesterday I went to city dock and got behind four ships I closed in on them and there was like four widebodies out.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:54:56.5 Pilot1	Yeah.		
19:54:57.5 Pilot2	That's a good example.		
19:55:06.3 Pilot2	*** See the stacks (too/dude).		
19:55:12.8 Pilot1	Yeah.		
19:55:13.8 Pilot2	***		
19:55:18.0 Pilot1	I told him - I thought - I - I said yeah we'll probably get you before we get to five mile.		
19:55:23.3 Pilot2	Yeah I didn't want to ask him to slow down but when increases then he did drop down below five.		
19:55:29.7 Pilot2	*** he uh ***		
19:55:34.0 Pilot2	One six zero.		
19:55:34.4 Helmsman	One six zero.		
19:55:35.8 Pilot1	*** deputy *** when they ride with me they probably hate me ***.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:55:39.8 Pilot1	Naw *** bigger ships.		
19:55:50.6 Pilot1	They think they can get on these ships and tell them hey your new centerline is out a hundred and twenty feet right or left of centerline - that's the reason I'll drive down there ** (meet) past ships I might see.		
19:56:03.0 Pilot2	I don't think some of it sinks in though - I don't know.		
19:56:05.9 Pilot1	I - I'm beginning to think it's not because - I met somebody the other day I could call - oh it was uh - @[OP6] I had forty three feet - he's gettin' closer - he's gettin' closer - ** [radio noise interrupts]		
19:56:19.7 ABS?	***		
19:56:21.2 Pilot1	*** (eighteen feet) *** I never broke *** right down the sidelights *** [Interrupted by sound of radio]		
19:56:35.2 Pilot2	But the same - same thing about a month ago - I boarded a loaded ship - a two pilot job - south of one and two alpha between one and two and one and two alpha. [location markers in the channel, past the normal pilot boarding station]		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:56:46.6 Pilot2	** One and two bravo between the sets he was outbound and he had - like fourteen foot of draft.		
19:56:53.7 Pilot1	Yup		
19:56:54.8 Pilot2	Fourteen foot of draft right down the middle why does he need to be between one and two bravo - I didn't say nuthin' - I'm thinkin' at this point - if he has - if no one ever told him – One six two.		
19:57:07.5 Helmsman	One six two.		
19:57:08.7 Pilot1	I told him * --		
19:57:09.5 Pilot2	I didn't get it - I didn't get it at all.		
19:57:12.8 Pilot2	** the other pilot saw it too - I think he might have made the call.		
19:57:16.1 Pilot1	***		
19:57:31.0 Pilot1	Now - nowadays they got these computers they just do whatever they ***.		
19:57:38.7 Pilot1	***		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:57:51.1 Pilot2	Well that rain came finally around ten a-clock last night I kept waitin' for it all day long I went to bed and that's when it just came and I kept watching the weather radar - starboard fifteen.		
19:58:00.1 Helmsman	Starboard fifteen		
19:58:02.0 Pilot2	I kept watching the weather radar and they said it would be pickin' up about three o'clock and it never did.		
19:58:07.1 Pilot1	Sure did yeah.		
19:58:07.9 Pilot2	And I went to bed and it really wasn't - about eight - eight thirty I went to bed and all the sudden out of nowhere it starts thunderin'.		
19:58:15.5 Pilot1	(Wow/Loud)		
19:58:16.2 Pilot2	Midship		
19:58:17.1 Helmsman	Midship		
19:58:18.3 Pilot1	Yeah it came in last night - I - I woke up ***		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:58:29.4 Pilot1	Yeah I walked out in the hall and walked over to the - look out the window and I was like oh my god *** trees ***		
19:58:38.7 Pilot2	Port ten.		
19:58:39.4 Helmsman	Port ten.		
19:58:40.2 Pilot1	When I got down there this morning both cats and dogs *** were in bed with my wife - and I looked at my wife and I said had company last night? She goes first lightning bolt went off the cats and dogs were all over the place.		
19:58:56.9 Pilot1	*** we need to get our dogs *** [sound of crew member talking]		
19:59:02.7 Pilot1	Yeah my parents said her pets look terrible too.		
19:59:05.6 Pilot2	Yeah.		
19:59:06.9 Pilot1	Terrible just barking.		
19:59:09.0 Pilot2	Midship.		
19:59:09.8 Helmsman	Midship.		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:59:17.8 Pilot2	Hard starboard.		
19:59:19.0 Helmsman	Hard starboard.		
19:59:21.6 Pilot1	*** you too ***		
19:59:24.3 Pilot2	Ah.		
19:59:34.9 Pilot2	Starboard ten.		
19:59:35.9 Helmsman	Starboard ten.		
19:59:40.7 Pilot1	Alright - I'm gonna step down in the pilots room.		
19:59:43.1 Pilot2	Alright (just/its) straight back I just *** a little bit		
19:59:46.3 Pilot2	*** (toilet papers so thin) *** (fold it like six times) ***		
19:59:51.4 Pilot2	Starboard twenty.		
19:59:52.5 Helmsman	Starboard twenty.		
19:59:53.6 Pilot1	Give me a shout before you want to get off early --		

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
19:59:56.6 Pilot2	I will.		
19:59:57.2 Pilot1	-- or if anything comes up.		
19:59:58.0 Pilot2	Sounds good thanks.		
19:59:58.8 Pilot1	Ok.		
20:00:00.4 Pilot2	Midship.		
20:00:01.2 Helmsman	Midship.		
20:00:01.9 Pilot2	Steady.		
20:00:02.2 Helmsman	Steady.		
20:00:11.4 Pilot2	One five eight.		
20:00:12.5 Helmsman	One five eight		
20:00:21.0 2M	If I may ask, where are you getting *.		
20:00:22.0 Pilot2	Yeah		

Time and Source	Intra-Ship Communication
20:00:24.4 Pilot2	Well I might get off a little earlier - but we'll be out there about eighteen hundred.
20:00:41.2 Pilot2	One six zero.
20:00:42.8 Helmsman	One six zero.
20:01:05.3 Pilot2	One six one.
20:01:06.5 Helmsman	One six one.
20:01:31.9 ?	*** (sounds like - same) *** [faint background voice from bridge]
20:02:33.3 Pilot2	I need to plug this thing in.

Time and Source	Over-the-Air Communication
20:01:17.6 RDO-Pilot2	Come in there American Reliance.
20:01:20.3 American Reliance	American Reliance
20:01:21.3 RDO-Pilot2	-- Thank you have a good uh evenin' there cap'n.
20:01:23.9 American Reliance	No problem cap thank y'all for gettin' us out earlier.

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
20:03:00.4 MIC	[bridge phone rings]		
20:03:08.4 Chief Officer	[chief officer answers bridge phone] Good afternoon this is the Chief Officer.		
20:03:11.0 Chief Officer	[Hindi] (Please talk)		
20:03:18.5 Chief Officer	***		
20:03:23.2 Chief Officer	[Hindi] (He'll go between six to seven) -- (ok) -- [English] Understood.		
20:03:31.4 ABS?	***		
20:03:51.3 Mates?	***		
20:04:01.7 Mates?	***		
20:04:04.3 Mates?	***		
20:04:06.7 Mates?	*** (getting off)		
20:04:13.1 Pilot2	One six zero.		

Time and Source	Intra-Ship Communication
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20:04:14.2 Helmsman	One six zero.
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20:04:15.9 ABS?	(Midship - midship)
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20:04:21.0 Mates?	*** [Hindi and English Mixed]
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20:04:50.4 Mates?	***
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20:05:35.8 Mates?	***
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20:05:41.0 Mates?	***
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20:06:16.6 Pilot2	One six one.
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Time and Source	Over-the-Air Communication
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20:04:17.8 RDO-Pilot2	Trey Deloach ship astern of ya come by you on two.
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20:04:22.8 Trey Deloach	(Trey Deloach back roger)
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20:04:46.0 BW Oak Pilot	@[Pilot2], see ya on one
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20:04:48.2 RDO-Pilot2	@[BW Oak Pilot] uh - one whistle.
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20:04:50.5 BW Oak Pilot	Roger thank you.
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Time and Source **Intra-Ship Communication**

20:06:17.9
Helmsman One six one.

20:07:35.7
ABS? (What's up)

20:07:37.4
ABS? (Huh)

20:07:38.6
ABS? ***

20:07:51.9
Mates? (What time you wake up?)

20:07:56.8
Mates? One one.

20:08:03.1
ABS? [Tagalog]***

20:08:46.1
ABS? *** [Not English]

20:09:23.0
Pilot2 One six three.

Time and Source **Over-the-Air Communication**

20:09:11.7
Internal Radio *** eight seventy two **

20:09:15.4
Internal Radio Ok (seventy two / thank you)

20:09:19.2
Internal Radio Ok.

Time and Source **Intra-Ship Communication**

20:09:23.9
Helmsman One six three.

20:09:49.8
Pilot2 One six five.

20:09:51.2
Helmsman One six five.

20:11:12.0
Pilot2 One six four.

20:11:13.1
Helmsman One six four.

20:11:33.1
Pilot2 Port fifteen.

20:11:34.6
? Port fifteen

20:11:35.9
Pilot2 Port twenty.

20:11:36.9
Helmsman Port twenty.

Time and Source **Over-the-Air Communication**

20:11:29.4
**RDO-
Pilot2** That big white house in Friendwood [Houston suburb] burned down last night [talking to BW Oak Pilot]

20:11:33.4
**BW Oak
Pilot** Yeah I saw that

20:11:38.7
**BW Oak
Pilot** Could have been insurance job ***

Time and Source	Intra-Ship Communication
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20:11:40.4 Pilot2	-- (ship)
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20:11:41.5 Helmsman	Midship.
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20:11:48.5 Pilot2	Port fifteen.
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20:11:49.7 Helmsman	Port fifteen.
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20:11:57.6 Pilot2	Midship.
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20:11:58.7 Helmsman	Midship.
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20:11:59.1 Pilot2	Hard starboard.
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20:12:00.0 Helmsman	Hard starboard.
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20:12:05.3 ?	(listen)
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20:12:08.6 Pilot2	Starboard ten.
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Time and Source	Over-the-Air Communication
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20:11:44.1 RDO-Pilot2	It could be.
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20:11:45.3 BW Oak Pilot	It's been for sale for about twenty years.
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Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
20:12:09.5 Helmsman	Starboard ten.		
20:12:10.5 Pilot2	Midship.		
20:12:11.1 Helmsman	Midship.		
20:12:14.3 ?	***		
20:12:25.3 Pilot2	Starboard twenty.		
20:12:26.5 Helmsman	Starboard twenty.		
20:12:32.4 Pilot2	Midship.		
20:12:33.5 Helmsman	Midship.		
20:12:36.3 ?	*** [Hindi]		
20:12:37.7 Pilot2	Hard starboard.		
20:12:38.9 Helmsman	Hard starboard.		
		20:12:54.0 RDO-Pilot2	Come in there Voyager.

Time and Source	Intra-Ship Communication
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20:13:06.2 MIC	[Sound of a radio key]
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20:13:07.8 Pilot2	# - gimme more r p m.
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20:13:10.9 2M	(need more)
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20:13:11.4 Pilot2	More r p m, gimme everything you got.
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20:13:12.5 2M	Yes yes yes.
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20:13:14.2 Pilot2	#.
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20:13:18.1 ?	***
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20:13:24.1 ?	***
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Time and Source	Over-the-Air Communication
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20:12:57.8 Voyager	Go ahead.
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20:13:00.8 RDO-Pilot2	That ship lookin' at you, tryin' to check this thing up keep an eye on me.
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20:13:18.1 RDO-Pilot2	She's not checkin' up voyager.
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20:13:21.9 Voyager	(What do you need me to do captain?)
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Time and Source	Intra-Ship Communication
20:13:27.7 MIC	[sound of radio key]
20:13:30.1 Pilot2	Gimme everything you got man.
20:13:31.9 2M	Yes sir - yes sir - we are going to full.
20:13:34.7 Pilot2	Get that other pilot up here - # - get that other pilot up here.
20:13:43.2 2M	[Hindi] (Yes sir now give us maximum rpm - whatever you can give - yes sir - yes)
20:14:02.9 Mates?	[Hindi] (yes sir)
20:14:03.5 Pilot2	Midship.

Time and Source	Over-the-Air Communication
20:13:25.6 RDO-Pilot2	Go to the greens.
20:13:56.2 RDO-Pilot2	You need to go straight to the greens - take a ninety to the greens [side of the channel] cus I'm going to go your way again probably.
20:14:00.8 Voyager	[Voyager responds unintelligible]

Time and Source	Intra-Ship Communication	Time and Source	Over-the-Air Communication
20:14:04.6 Helmsman	Midship.		
20:14:05.6 Pilot2	Hard port.		
20:14:06.6 Helmsman	Hard port.		
20:14:08.1 Pilot2	# # # #.		
20:14:13.6 Pilot2	Midship.		
20:14:14.4 Helmsman	Midship.		
20:14:14.9 Pilot2	Starboard twenty.		
20:14:15.8 Helmsman	Starboard twenty.		
20:14:16.0 Pilot2	#.		
20:14:19.2 Pilot2	Hard starboard.		
20:14:20.1 Helmsman	Hard starboard.		
20:14:21.3 Pilot2	# that rudder's slow.		

Time and Source	Intra-Ship Communication
20:14:23.2 Pilot2	(#/god).
20:14:24.1 Pilot1	Have you got both pumps on --
20:14:25.6 2M	Yeah already.
20:14:26.5 Pilot2	Midship.
20:14:27.2 Helmsman	Midship.
20:14:42.3 Pilot2	I don't think this is gonna work (here/either)
20:14:44.2 Pilot2	Hard port.

Time and Source	Over-the-Air Communication
20:14:29.0 RDO-Pilot2	# man - go Voyager go - go go go.
20:14:33.3 Voyager	I'm hooked up - hard over there bubba [engine full and far rudder / everything I can give you]
20:14:37.9 Provider	Provider to Genesis River.
20:14:39.9 RDO-Pilot2	You need to keep an eye on me too man. [talking to Provider]

Time and Source	Intra-Ship Communication
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20:14:45.0 Helmsman	Hard port.
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20:14:45.5 Pilot2	Hard port - # hard to port.
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20:14:48.1 Mates?	(We're going) actual sir.
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20:14:48.4 Helmsman	Hard port.
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20:14:54.2 2M	Master master.
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20:15:00.3 Pilot2	Midship.
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20:15:01.0 Helmsman	Midship.
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20:15:01.4 Pilot2	Hard port.
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20:15:02.3 ?	Hard port.
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20:15:02.4 Helmsman	Hard to port.
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Time and Source	Over-the-Air Communication
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20:14:49.7 RDO-Pilot2	I'm gonna probably hit ya - uh - sound your general alarm there Voy- uh - (just uh) get everybody up.
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20:15:03.5 Provider	*** lost steering or something
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Time and Source **Intra-Ship Communication**

20:15:13.1
Pilot2 midship

20:15:13.7
Helmsman midship

20:15:24.0
Pilot2 #

20:15:25.5
2M Go - go to the port - go to the port

20:15:28.9
? (Midship/ok)

20:15:29.3
Pilot2 Midship.

20:15:29.9
Helmsman Midship.

Time and Source **Over-the-Air Communication**

20:15:07.7
RDO-Pilot2 no just keep an eye on me

20:15:10.2
RDO-Pilot2 wake everybody up on that - uh - voyager

20:15:14.2
Voyager You got it brother, we got 'em, appreciate it.

20:15:17.7
RDO-Pilot2 I'm gonna be swingin' your way real - soon she's comin' your way - you (gotta/guys) push on it

20:15:21.9
Voyager It's all she's got - it's all she's got.

Time and Source	Intra-Ship Communication
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20:15:30.7 Pilot2	Hard (to) starboard.
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20:15:31.6 Helmsman	Hard starboard.
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20:15:35.5 2M	Hard port sir hard port.
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20:15:42.2 Pilot1	I'll take care of coast guard.
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20:15:43.4 Pilot2	Go - uh - stop engines.
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20:15:44.2 ?	*** engines ***
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20:15:45.4 2M	Stopping engines.
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20:15:46.6 Pilot2	Full astern- well - just stop engines.
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20:15:49.5 MIC	[Sound of EOT]
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Time and Source	Over-the-Air Communication
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20:15:31.8 RDO-Pilot2	You got it hard over there voyager you're gonna have to uh - you're gonna have to just - uh - work with me we're gonna have uh - we're gonna collide - #
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20:15:41.2 Voyager	Roger - roger roger.
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Time and Source	Intra-Ship Communication
20:15:52.1 Pilot2	(this is/ looking) bad.
20:15:52.7 MIC	[sound of EOT]
20:15:55.4 Pilot1	traffic this is one forty nine
20:15:57.0 MIC	[Sound of many voices in the background]
20:15:58.8 ?	*** forward ***
20:15:59.1 MIC	[Sound of EOT]
20:16:00.7 Pilot2	Wake up everybody sound your general alarm.
20:16:04.3 MIC	[Sound of EOT]

Time and Source	Over-the-Air Communication
20:16:07.4 RDO-?	Bridge bridge.
20:16:08.7 RDO-Pilot2	Two two eight - one ninety - bad collision - shut down the channel.

**Time and
Source**

Intra-Ship Communication

**Time and
Source**

Over-the-Air Communication

20:16:17.4

MIC

[Sound of Genesis River general alarm]

END OF TRANSCRIPT

END OF RECORDING